

INFORMATION ASSURANCE AND CYBERSECURITY (AAS)

Award: Associate of Applied Science Degree

No. of credits required: 60

For more information: Contact Business & Applied Technology at bat@harford.edu; or Admissions, 443-412-2109.

Program Description

This degree program prepares students to enter the high-demand field of information technology security. With the increase of viruses and other security breaches, companies need professionals who can protect their data and equipment from internal and external security threats. Students in this program gain hands-on experience with the latest hardware and software and learn to implement appropriate security policies and procedures. Students planning to transfer should select electives according to the requirements of the receiving institution.

Program Goals

Upon successful completion of this program of study students will be able to:

1. Apply software patches to operating systems and applications
2. Assess a computer system's security vulnerabilities using appropriate resources
3. Use standard software tools to detect attempted security breaches of computer systems
4. Implement computer network security defenses
5. Sit for CCNA (Cisco Certified Network Administrator) certificate examinations if desired

Employment Information

According to the *Occupational Outlook Handbook*, computer security specialists plan, coordinate, and maintain an organization's information security. These workers educate users about computer security, install security software, monitor networks for security breaches, respond to cyber attacks, and, in some cases, gather data and evidence to be used in prosecuting cyber crime. The responsibilities of computer security specialists have increased in recent years as cyber attacks have become more sophisticated. Employment is expected to grow much faster than the average, and job prospects should be excellent. Overall employment may increase by as much as 31% by 2029. Demand for information security analysts is expected to be very high. Cyberattacks have grown in frequency, and analysts will be needed to come up with innovative solutions to prevent hackers from stealing critical information or creating problems for computer networks.

Degree Requirements

Recommended Course Sequence

First Semester		Credits
CIS 102	Introduction to Information Sciences (GI)	3
ENG 101	English Composition (GE)	3
ISS 105	Intro to Cybersecurity (GI)	3
PHIL 221	Business Ethics (GAH)	3

Mathematics Elective (GM) (https://catalog.harford.edu/general-education/#mathematics)	3
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Credits	15
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Second Semester

CIS 104	Computer Operating Systems	3
CIS 211	MS Windows Server Operating System	3
CIS 135	Introduction to Networks	3
Biological/Physical Lab Science Elective (GL) (https://catalog.harford.edu/general-education/#biological-physical-laboratory-science)		4
Behavioral/Social Science Elective (GB) (D)		3

Credits	16
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Third Semester

CIS 210	Fundamentals of Network Security	3
ISS 111	Cisco 1	4
ISS 112	Cisco 2	4
ISS 220	Strategic Infrastructure Security	3
Physical Education Elective		1

Credits	15
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Fourth Semester

ISS 221	Network Defense & Countermeasures	3
ISS 222	Computer Forensics	3
ISS 213	Cisco 3	4
Select one of the following:		4

CIS 274	Cooperative Education: Computer Information Systems	
CIS 134	Fundamentals of Cloud Administration	
CIS 110	Introduction to UNIX/Linux	
ISS 212	Cisco Cybersecurity Operations	

Credits	14
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Total Credits	60
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General Education Degree Requirements

Note: The following codes identify courses which satisfy the General Education Degree Requirements:

Behavioral/Social Science (GB)
 English Composition (GE)
 Arts/Humanities (GAH)
 Interdisciplinary and Emerging Issues (GI)
 Biological/Physical Laboratory Science (GL)
 Mathematics (GM)
 Biological/Physical Science (GS)

Part-Time Progression Plan

The part-time progression plan for programs of study has been developed as a helpful example for students to guide their academic journey. This plan outlines a likely sequence of courses and milestones over three years to help students visualize their academic path. It is important to note that this progression plan is based solely on the core requirements outlined in the approved program of study and does not include any additional requirements. Each student's experience may vary based on their specific interests, course availability, and academic history. Therefore, students are encouraged to work closely with their academic advisor.

General Education Degree Requirements

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Behavioral/Social Science (GB)
 English Composition (GE)
 Arts/Humanities (GAH)
 Interdisciplinary and Emerging Issues (GI)
 Biological/Physical Laboratory Science (GL)
 Mathematics (GM)
 Biological/Physical Science (GS)

Part-Time General Education Electives

To earn an Associate degree, students must complete at least 60 college-level credits, including a required number of General Education (Gen Ed) credits:

- AA, AS, and AAT degrees require 28–36 General Education credits as part of the 60 total. This includes a minimum of:
 - 6 credits of Arts/Humanities (GAH)
 - 6 credits of Behavioral/Social Sciences (GB)
 - 3 credits of English Composition (GE) - satisfied by ENG 101 English Composition (GE)
 - 4 credits of Biological/Physical Laboratory Science (GL)
 - 3 credits of Mathematics (GM)
 - 3 credits of Biological/Physical Science (GS)
- AAS degrees require at least 18 General Education credits, including one course from each of the following categories: GAH, GB, GE, GL, and GM.

General Education courses must be selected from the college's approved list and may be further specified by individual degree programs. Unless a General Education course is specifically required by a program, the elective General Education courses listed in the recommended sequence are intended as suggestions, not mandatory selections.

Recommended Part-Time Sequence

Course	Title	Credits
First Year		
Fall		
ISS 111	Cisco 1	4
ENG 101	English Composition (GE)	3
ISS 105	Intro to Cybersecurity (GI)	3
Credits		10
Winter		
CIS 102	Introduction to Information Sciences (GI)	3
Physical Education Elective		1
Credits		4
Spring		
CIS 104	Computer Operating Systems	3
ISS 112	Cisco 2	4
Select a Mathematics Elective (GM):		3-4
MATH 216	Introduction to Statistics (GM)	
DSCI 102	Introductory Statistics with Programming Applications (GM)	

Mathematics Elective (GM) (https://catalog.harford.edu/general-education/#mathematics)		
Credits		10-11
Summer		
CIS 135	Introduction to Networks	3
Credits		3
Second Year		
Fall		
Select a Biological/Physical Lab Science Elective (GL):		4
ASTR 151 & ASTR 152	Introduction to Astronomy (GS) and Sky and Telescope Laboratory (GL)	
BIO 108 & BIO 116	Human Body in Health and Disease (GS) and Human Body in Health and Disease Laboratory (GL)	
ENV 111 & ENV 112	Introduction to Environmental Science (GS) and Environmental Science Laboratory (GL)	
Biological/Physical Lab Science Elective (GL) (https://catalog.harford.edu/general-education/#biological-physical-laboratory-science)		
CMST 210	Group Communication and Leadership (GAH)	3
ISS 213	Cisco 3	4
Credits		11
Winter		
HIST 202 or PSY 101	The Twentieth Century World (GB) or General Psychology (GB)	3
Credits		3
Spring		
CIS 211	MS Windows Server Operating System	3
ISS 221	Network Defense & Countermeasures	3
ISS 222	Computer Forensics	3
Credits		9
Summer		
ISS 220	Strategic Infrastructure Security	3
Credits		3
Third Year		
Fall		
CIS 210	Fundamentals of Network Security	3
Select one of the following:		4
CIS 274	Cooperative Education: Computer Information Systems	
CIS 134	Fundamentals of Cloud Administration	
CIS 110	Introduction to UNIX/Linux	
ISS 212	Cisco Cybersecurity Operations	
Credits		7
Total Credits		60-61